Phytosociological Research Center

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Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 30/08/2017)

KOTA (INDIA) Altitude: 257 m.

Latitude: 25°11'N Longitude: 75°51'E
Temperature observation period.: 1954-1994 (41)
Rainfall observation period....: 1954-1994 (41)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	EPi
Jan.	17.78	25.00	10.56	33.89	1.67	6.1	24.38
Feb.	20.28	27.78	12.78	37.78	1.11	5.3	39.64
Mar.	26.11	33.89	18.33	42.78	8.33	4.3	127.06
Apr.	31.67	38.89	24.44	46.11	14.44	5.3	187.49
May.	35.83	42.22	29.44	48.33	18.89	11.9	241.70
Jun.	35.00	40.56	29.44	47.78	20.00	67.1	232.03
Jul.	30.56	34.44	26.67	46.11	20.00	257.6	196.56
Aug.	28.89	32.22	25.56	41.11	18.89	245.4	173.19
Sep.	28.89	33.33	24.44	40.00	18.89	119.6	157.72
Oct.	28.06	35.00	21.11	41.11	12.78	16.5	146.51
Nov.	22.78	30.56	15.00	37.22	7.78	5.8	64.77
Dec.	18.61	26.11	11.11	33.89	2.78	5.3	28.67
Year	27.04	33.33	20.74	41.34	12.13	750	1619.7

BIOCLIMATIC INDICES AND DIAGNOSIS

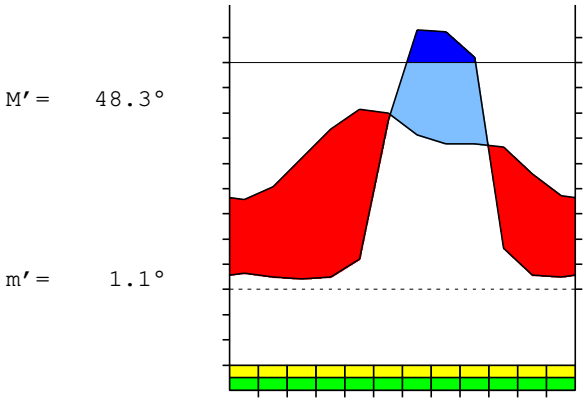
Thermicity index.....(It): 626
Compensated thermicity index.....(Itc): 626
Simple continentality index.....(Ic): 18.1
Diurnality index.....(Id): 15.6
Annual ombrothermic index.....(Io): 2.31
Monthly dry ombrothermic index.....(Iod1): 0.16
Bimonthly dry ombrothermic index.....(Iod2): 0.21
Threemonthly dry ombrothermic index.....(Iod3): 0.19
Fourmonthly dry ombrothermic index.....(Iod4): 0.22
Annual ombro-evaporation index.....(Ioe): 16.33
Annual positive temperature.....(Tp): 3245
Annual negative temperature.....(Tn): 0
Dry station temperature.....(Td): 781
Positive precipitation.....(Pp): 750

N. of	P>4T	P:2T-4T	PT-2T	P<T	T<0
Months	3	0	1	8	0

Latitudinal Belt...: Subtropical
Continentality.....: Oceanic - Low Semicontinental
Bioclimate(Variant): TROPICAL XERIC (DRY)
Bioclimatic Belt...: LOW THERMOTROPICAL LOW DRY

KOTA (INDIA) 257 m

P= 750 25° 11'N 75° 51'E 41/41 y.
T= 27.0° Ic= 18.1 Tp= 3245 Tn= 0
m= 10.6° M= 25.0° Itc= 626 Io= 2.3



TROPICAL XERIC (DRY)
LOW THERMOTROPICAL LOW DRY

WATER INDEX CARD KOTA (INDIA)
Altitude: 257 m. Latitude: 25° 11'N

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jan.	17.8	24	6	0	0	6	18	0	1	-0.7
Feb.	20.3	40	5	0	0	5	34	0	0	-0.8
Mar.	26.1	127	4	0	0	4	123	0	0	-0.9
Apr.	31.7	187	5	0	0	5	182	0	0	-0.9
May.	35.8	242	12	0	0	12	230	0	0	-0.9
Jun.	35.0	232	67	0	0	67	165	0	0	-0.7
Jul.	30.6	197	258	61	61	197	0	0	0	0.3
Aug.	28.9	173	245	39	100	173	0	33	17	0.4
Sep.	28.9	158	120	-38	62	158	0	0	8	-0.2
Oct.	28.1	147	17	-62	0	78	68	0	4	-0.8
Nov.	22.8	65	6	0	0	6	59	0	2	-0.9
Dec.	18.6	29	5	0	0	5	23	0	1	-0.8
Year	27.0	1620	750	*	*	717	903	33	33	*

R = Reserve VR = Variation of the reserve RE = Real evapotranspiration
DR = Drainage HC = Humidity coeficient DF = Deficit SP = Superavit

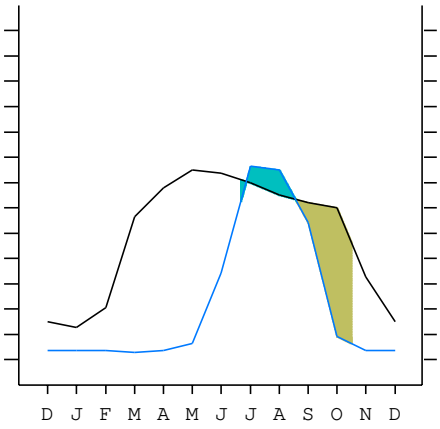
KOTA (INDIA)

25°11'N 75°51'E 257 m 41/41 y.

T= 27.0 Ic= 18.1
m= 10.6 Tp= 3245
M= 25.0 Tn= 0
M'= 48.3 Itc= 626
m'= 1.1 Io= 2.3
P= 750 mm
PE= 1620 mm

TROPICAL XERIC (DRY)
LOW THERMOTROPICAL
LOW DRY

Imbibing	22 Jun.
Saturation	17 Aug.
Reserve Use	20 Aug.
Deficit	15 Oct.



KOTA (INDIA)

Latitude: 25°11'N Longitude: 75°51'E Altitude: 257 m

SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

Continentality Index [B1a]
- + Type .....: B. Oceanic
- + Subtype .....: 1. Semicontinental
- + Variant .....: a. Low

Thermic types [A3.A1]
- + Latitudinal zone ....: A. Warm
- + Latitudinal belt ....: 3. Subtropical
- + Thermic type .....: A. Warm
- + Thermic subtype .....: 1. Torrid

Bioclimatic types [A3.2b.5b]
- + Macrobioclimate .....: A. TROPICAL
- + Bioclimate .....: 3. XERIC
- + Bioclimatic variant .:
- + Thermic type.....: 2. THERMOTROPICAL
- + Thermic subtype.....: b. LOW
- + Ombrothermic type ...: 5. DRY
- + Ombrothermic subtype : b. LOW

Bioclimatic Classification .....: Trxe.Ttr.Dry

KOTA (INDIA)

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 707
Coldest semester of the year.....(Psw): 43
Warmest four months period of the year.....(Pcm1): 342
Following warmest four months period.....(Pcm2): 387
Positive precipitation dryest 3 months.....(Ppd): 15
Positive precipitation dryest 2 months.....(Ppd2): 10
Positive precipitation dryest 1 month.....(Ppd1): 4
Positive precipitation warmest 3 months.....(Pps): 84
Positive precipitation warmest 2 months.....(Pps2): 79
Positive precipitation warmest 1 month.....(Pps1): 12
Positive precipitation coldest 3 months.....(Ppw): 17
Positive precipitation coldest 2 months.....(Ppw2): 11
Positive precipitation coldest 1 month.....(Ppw1): 6

Seasons	Winter Tr1-W	Spring Tr2-P	Summer Tr3-S	Automn Tr4-F
Rainfall	16	21	570	141

Seasonal rainfall rhythms: S > F > P > W

KOTA (INDIA)

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 35.8
Average coldest month [T].....(Tmin): 17.8
Maximum temp. warmest month [M].....(Tmmax): 42.2
Minimum temp. coldest month [m].....(Tmmin): 10.6
Absolute Max.temp. warmest month [M'].....(Tamax): 48.3
Absolute Min.temp. coldest month [m'].....(Tamin): 1.1
First warmest contrasted month [M].....(Tcmax): 33.9 (3)
First coldest contrasted month [m].....(Tcmin): 18.3 (3)
Dry station temperature.....(Td): 781
Positive temperature dryest 3 months.....(Tpd): 781
Positive temperature dryest 2 months.....(Tpd2): 464
Positive temperature dryest 1 month.....(Tpd1): 261
Positive temperature warmest 3 months.....(Tps): 1025
Positive temperature warmest 2 months.....(Tps2): 708
Positive temperature warmest 1 month.....(Tps1): 358
Positive temperature coldest 3 months.....(Tpw): 567
Positive temperature coldest 2 months.....(Tpw2): 364
Positive temperature coldest 1 month.....(Tpw1): 178

KOTA (INDIA)

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SEASONAL PARAMETERS

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Warmest semester...(Sms)				o	o	o	o	o	o			
Dryest semester....(Smd)	o	o	o	o							o	o
Warmest 4 months...(Cm1)				o	o	o	o					
Dryest 4 months....(Cmd)	o	o	o	o								
Vegetation Activity(Pav)	o	o	o	o	o	o	o	o	o	o	o	o
Ultragelid...[M'<=0](Pf)												
Hypergelid...[M <=0](Pf)												
Gelid.....[T <=0](Pf)												
Subgelid.....[m <=0](Pf)												
Pregelid.....[m'<=0](Pf)												
Agelid.....[m'> 0](Pf)	o	o	o	o	o	o	o	o	o	o	o	o
HiperAgelid..[all>0](Pf)	o	o	o	o	o	o	o	o	o	o	o	o

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OMBROTHERMIC PARAMETERS

Annual aridity index.[PE/P].....(Iar): 2.16
Mediterranean index of July.[PE/P].....(Im1): 0.76
Mediterranean index of July & August.....(Im2): 0.74
Mediterranean index of June, July & August....(Im3): 1.06

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp(x10)	53	61	53	43	53	119	671	2576	2454	1196	165	58
Tp	186	178	203	261	317	358	350	306	289	289	281	228
Io (Iom)	0.28	0.34	0.26	0.16	0.17	0.33	1.92	8.43	8.49	4.14	0.59	0.25

Seasons	Winter	Spring	Summer	Automn
Pp(x10)/Tp	167 / 567	215 / 936	5701 / 944	1419 / 797
Io (Iot)	0.295	0.230	6.036	1.780

Semesters	December-May	June-November
Pp(x10)/Tp	382 / 1503	7120 / 1742
Io (Iosm)	0.254	4.088

KOTA (INDIA)

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 7502/3245=2.31 There is No Yearly Aridity

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	53	61	53	43	53	119	671	2576	2454	1196	165	58
Tp [T*10]	186	178	203	261	317	358	350	306	289	289	281	228
Iom [Pp/Tp]	28	34	26	16	17	33	192	843	849	414	59	25
Avm [200-Iom]	172	166	174	184	183	167	8	***	***	***	141	175

Seasons	Winter	Spring	Summer	Automn
Pp / Tp	167 / 567	215 / 936	5701 / 944	1419 / 797
Iot [Pp/Tp]	29	23	604	178
Avs E[Avm<200]	511	534	***	***

Upper ultrahyperarid [2]	Lower hyperarid [5]
Upper hyperarid [2]	Weak lower arid [1]
Weak upper semiarid [1]	

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin] .....(Sp): 18.05
CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4] .....: 51.71
CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14] .....: 39.25
  + Oceanic (20<CI<40)
CI of Currey (1974) [CI=Sp/(1+Lat/3)] .....: 1.92
  + Continental (1.7<CI<2.3)
Rainfall Index of Lang (1925) [R=P/T] .....: 27.75
  + Steppic (40>R>0)
Aridity Index of Martonne (1926) [Ia=P/(T+10)] .....: 20.25
  + Subhumid (30>Ia>20)
I of Emberger (1930) [Q=100*P/(Tmmax²-Tmmin²)] .....: 44.89
  + Semiarid (50>Q>30)
I of Dantin & Revenga (1940) [DR=100*T/P] .....: 3.60
  + Arid (6>DR>3)
Aridity Index of UNEP [I=P/PE] .....: 0.46
  + Semiarid (0.5>Im>0.2)
Potencial Erosion I of Fournier (1960) [K=Pi²/P].....: 88.45
  + Low (60<K<90)

KOTA (INDIA)

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BIOCLIMATIC INDICES II

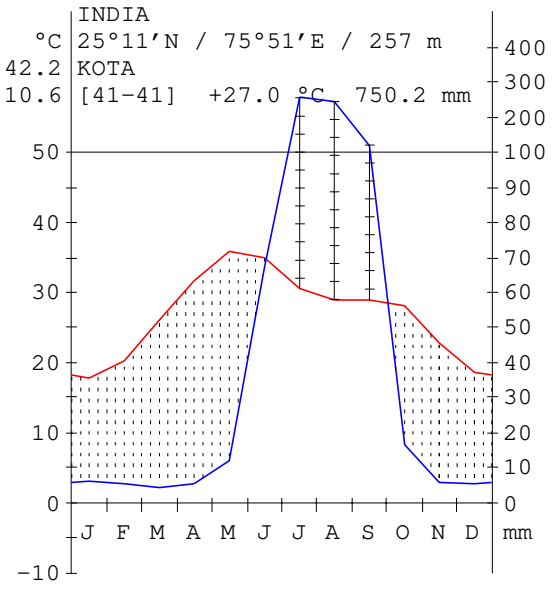
Bioclimatic classification of Gaussen & Bagnouls (1957)
  + Climate ....: A. Warm and temperate warm
  + Region .....:
  + Thermic type: 1. Megathermic

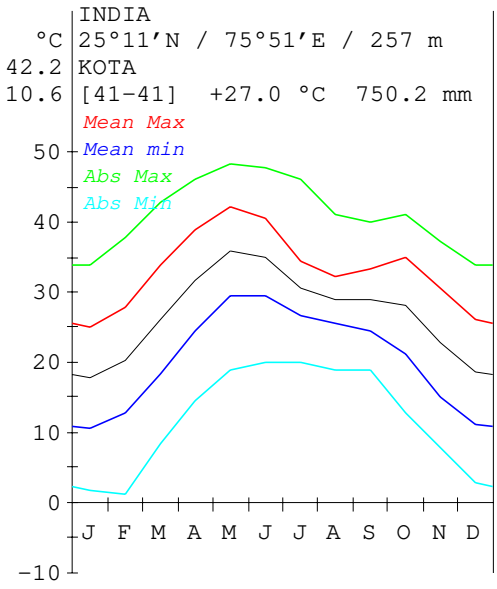
Thornthwaite (1948)

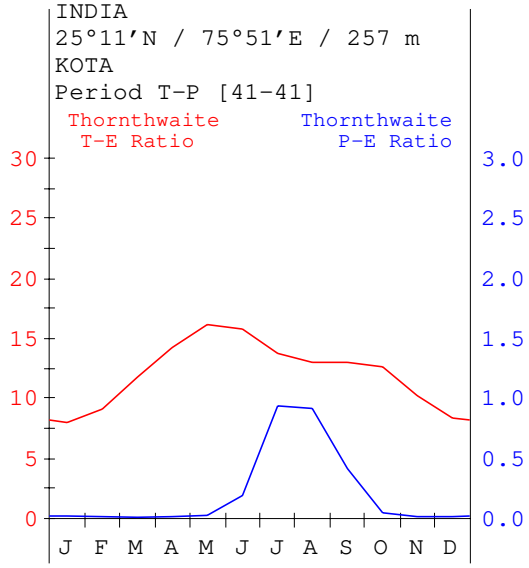
	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
P-E ratio	0.02	0.02	0.01	0.01	0.03	0.19	0.94	0.92	0.41	0.05	0.02	0.02
T-E ratio	8.00	9.13	11.75	14.25	16.12	15.75	13.75	13.00	13.00	12.63	10.25	8.37

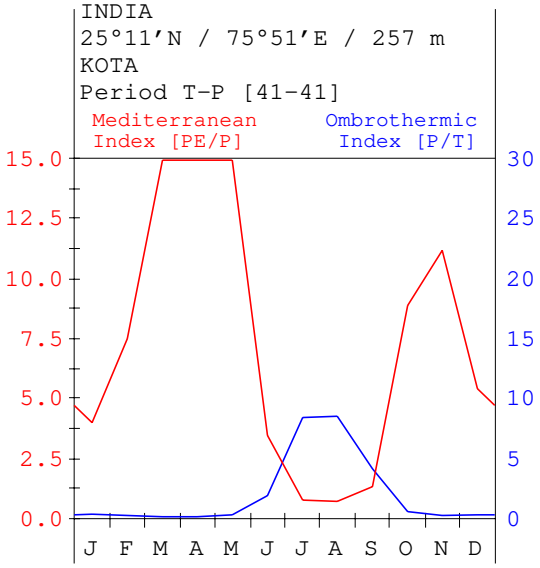
Precipitation-effectiveness: 26.24 Temperature-efficiency ....: 146.01

Moisture Index [MI=100*(P-PE)/PE] .....: -53.68
  + D.Semiarid (-66.7<MI<-33.3)
Index of dryness [DI=100*d/PE] .....: 55.73
  + Strong deficit (33.3<DI)
Index of humidity [HI=100*s/PE] .....: 2.05
  + No surplus (0<HI<10)
Potential Evapotranspiration PE .....: 1619.70
  + Megathermic (PE>1440)




INDIA
°C 25°11'N / 75°51'E / 257 m
42.2 KOTA
10.6 [41-41] +27.0 °C 750.2 mm
Mean Max
Mean min
Abs Max
Abs Min
50
40
30
20
10
0
-10
J F M A M J J A S O N D


INDIA
25°11'N / 75°51'E / 257 m
KOTA
Period T-P [41-41]
Thornthwaite T-E Ratio
Thornthwaite P-E Ratio
30
25
20
15
10
5
0
3.0
2.5
2.0
1.5
1.0
0.5
0.0
J F M A M J J A S O N D


INDIA
25°11'N / 75°51'E / 257 m
KOTA
Period T-P [41-41]
Mediterranean Index [PE/P]
Ombrothermic Index [P/T]
15.0
12.5
10.0
7.5
5.0
2.5
0.0
30
25
20
15
10
5
0
J F M A M J J A S O N D